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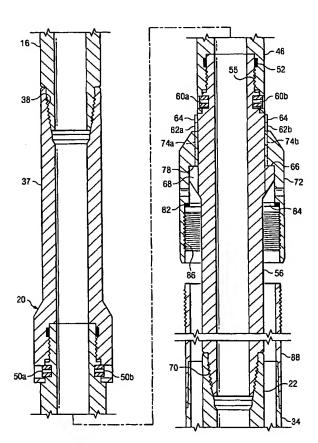
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(54) Title: APPARATUS AND METHOD FOR RUNNING A RADIALLY EXPANDABLE TUBULAR MEMBER



(57) Abstract: A tubular apparatus (20) and method, according to which a first tubular member (34) is adapted to be lowered into a well bore and a second tubular member (120) is connected to the first tubular member (34). A third tubular member (102, 112) is normally connected to the first tubular member (34) and disconnected from the second tubular member (102, 112), and is adapted for movement relative to the first (34) and second tubular (120, 112) members to disconnect from the first tubular member (34) and connect to the second tubular member (102, 112).



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Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ,

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AMENDED CLAIMS [Received by the International Bureau on 5 March 2005 (05.03.2005): original claims 1 to 34 replaced by amended claims 1 to 46]

- 1. A tubular apparatus comprising:
 - a first tubular member adapted to be lowered into a well bore;
 - a second tubular member connected to the first tubular member; and
- a third tubular member normally connected to the first tubular member and disconnected from the second tubular member, and adapted for movement relative to the first and second tubular members to disconnect from the first tubular member and connect to the second tubular member.
- 2. The apparatus of claim 1 wherein the third tubular member moves relative to the first and second tubular members in response to at least one of the first and second tubular members encountering a resistance in the well bore.
- 3. The apparatus of claim 1 wherein the third tubular member moves axially relative to the first and second tubular members.
- 4. The apparatus of claim 1 or 2 further comprising means for applying a torque to the third tubular member when it has been disconnected from the first tubular member and connected to the second tubular member.
- 5. The apparatus of claim 4 where the torque is transferred from the third tubular member to the second tubular member to enable the resistance to be overcome.
- 6. The apparatus of claim 3 wherein the third tubular member moves in one direction relative to the first and second tubular members in response to one of the members encountering a predetermined resistance in the well bore.
- 7. The apparatus of claim 6 wherein the third tubular member is adapted to move relative to the first and second tubular members in a direction opposite the one direction to disconnect from the second tubular member and reconnect with the first tubular member.
- 8. The apparatus of claim 7 further comprising means for applying a torque to the third tubular member after the first tubular member has been disconnected from the second tubular member and reconnected to the first tubular member.

9. The apparatus of claim 8 further comprising a fourth tubular member threadedly connected to the first tubular member, and wherein the torque is transferred from the third tubular member to the first tubular member to disconnect the threaded connection between the fourth tubular member and the first tubular member.

10. The apparatus of claim 1 further comprising means for Introducing a sealing material through the tubular members for passage into the well bore, and means for applying a torque to the third tubular member when it has been disconnected from the first tubular member and connected to the second tubular member to transfer the torque from the third tubular member to the second tubular member to distribute the material in the well bore.

11. A method comprising:

lowering a first tubular member into a well bore; connecting a second tubular member to the first tubular member; connecting a third tubular member to the first tubular member; and

moving the third tubular member relative to the first and second tubular members to disconnect the third tubular member from the first tubular member and connect the third tubular member to the second tubular member.

- 12. The method of claim 11 wherein the third tubular member moves relative to the first and second tubular members in response to at least one of the first and second tubular members encountering a resistance in the well bore.
- 13. The method of claim 11 wherein the third tubular member moves axially relative to the first and second tubular members.
- 14. The method of claim 11 or 12 further comprising applying a torque to the third tubular member after the step of moving.
- 15. The method of claim 14 where the torque is transferred from the third tubular member to the second third tubular member to enable the resistance to be overcome.
- 16. The method of claim 13 wherein the third tubular member moves in one direction relative to the first and second tubular members in response to one of the members encountering a predetermined resistance in the well bore.

17. The method of claim 16 further comprising moving the third tubular member relative to the first and second tubular members in a direction opposite the one direction to disconnect from the second tubular member and reconnect with the first tubular member.

- 18. The method of claim 17 further comprising applying a torque to the third tubular member after the first tubular member has been disconnected from the second tubular member and reconnected to the first tubular member.
- 19. The method of claim 18 further comprising threadedly connecting a fourth tubular member to the first tubular member, and wherein the torque is transferred from the third tubular member to the first tubular member to disconnect the threaded connection between the fourth tubular member and the first tubular member.
- 20. The method of claim 11 further comprising introducing a sealing material through the tubular members for passage into the well bore, and applying a torque to the third tubular member when it has been disconnected from the first tubular member and connected to the second tubular member to transfer the torque from the third tubular member to the second tubular member to distribute the material in the well bore.

21. A method comprising:

connecting an apparatus to an upper portion of an expandable tubular member to place the expandable tubular member in tension; and lowering the apparatus and the expandable tubular member into a well bore, the apparatus supporting at least a portion of the expandable tubular member during the lowering.

- 22. The method of claim 21 further comprising applying torque to the expandable tubular member.
- 23. The method of claim 21 further comprising placing the apparatus and the expandable tubular member in condition for an expansion procedure.
- 24. The method of claim 22 further comprising placing the apparatus and the expandable tubular member in condition for an expansion procedure.
- 25. The method of claim 21 further comprising applying torque to the apparatus and transmitting the torque to the expandable tubular member.

26. The method of claim 25 further comprising overcoming a resistance in the well bore.

- 27. The method of claim 25 further comprising introducing a sealing material into the well bore and further comprising distributing the material in the well bore during the transmitting of the torque to the expandable tubular member.
- 28. The method of claim 25 further comprising placing the apparatus and the expandable tubular member in condition for an expansion procedure.
- 29. The method of claim 26 further comprising placing the apparatus and the expandable tubular member in condition for an expansion procedure.
- 30. The method of claim 27 further comprising placing the apparatus and the expandable tubular member in condition for an expansion procedure.
- 31. The method of claim 21 wherein a tubular member of the apparatus is connected to the upper portion of the expandable tubular member.
- 32. The method of claim 31 further comprising applying torque to the apparatus and transmitting the torque to the expandable tubular member and to the tubular member of the apparatus.
- 33. The method of claim 32 further comprising disconnecting the tubular member of the apparatus from the apparatus and placing the apparatus and the expandable tubular member in condition for an expansion procedure.
- 34. The method of claim 31 further comprising disconnecting the tubular member of the apparatus from the apparatus and placing the apparatus and the expandable tubular member in condition for an expansion procedure.
- 35. A system comprising:
 means for lowering a first tubular member into a well bore;
 means for connecting a second tubular member to the first tubular member;
 means for connecting a third tubular member to the first tubular member; and

means for moving the third tubular member relative to the first and second tubular members to disconnect the third tubular member from the first tubular member and connect the third tubular member to the second tubular member.

36. The system of claim 35 wherein the third tubular member moves relative to the first and second tubular members in response to at least one of the first and second tubular members encountering a resistance in the well bore.

- 37. The system of claim 35 wherein the third tubular member moves axially relative to the first and second tubular members.
- 38. The system of claim 35 or 36 further comprising means for applying a torque to the third tubular member after the step of moving.
- 39. The system of claim 38 where the torque is transferred from the third tubular member to the second third tubular member to enable the resistance to be overcome.
- 40. The system of claim 37 wherein the third tubular member moves in one direction relative to the first and second tubular members in response to one of the members encountering a predetermined resistance in the well bore.
- 41. The system of claim 40 further comprising means for moving the third tubular member relative to the first and second tubular members in a direction opposite the one direction to disconnect from the second tubular member and reconnect with the first tubular member.
- 42. The system of claim 41 further comprising means for applying a torque to the third tubular member after the first tubular member has been disconnected from the second tubular member and reconnected to the first tubular member.
- 43. The system of claim 42 further comprising means for threadedly connecting a fourth tubular member to the first tubular member, and wherein the torque is transferred from the third tubular member to the first tubular member to disconnect the threaded connection between the fourth tubular member and the first tubular member.
- 44. The system of claim 35 further comprising means for introducing a sealing material through the tubular members for passage into the well bore, and means for applying a torque to the third tubular member when it has been disconnected from the first tubular member and connected to the second tubular member to transfer the torque from the third tubular member to the second tubular member to distribute the material in the well bore.

45. A method, comprising:

connecting an apparatus to an upper portion of an expandable tubular member to place the expandable tubular member in tension;

lowering the apparatus and the expandable tubular member into a well bore, the apparatus supporting at least a portion of the expandable tubular member during the lowering:

applying torque to the expandable tubular member,

overcoming a resistance to movement of the apparatus in the well bore;

introducing a sealing material into the well bore and distributing the material in the well bore during the transmitting of the torque to the expandable tubular member; and

disconnecting the tubular member of the apparatus from the apparatus and placing the apparatus and the expandable tubular member in condition for an expansion procedure;

wherein a tubular member of the apparatus is connected to the upper portion of the expandable tubular member.

46. A system, comprising:

means for connecting an apparatus to an upper portion of an expandable tubular member to place the expandable tubular member in tension;

means for lowering the apparatus and the expandable tubular member into a well bore, the apparatus supporting at least a portion of the expandable tubular member during the lowering;

means for applying torque to the expandable tubular member;

means for overcoming a resistance to movement of the apparatus in the well bore;

means for introducing a sealing material into the well bore and distributing the material in the well bore during the transmitting of the torque to the expandable tubular member; and

means for disconnecting the tubular member of the apparatus from the apparatus and placing the apparatus and the expandable tubular member in condition for an expansion procedure;

wherein a tubular member of the apparatus is connected to the upper portion of the expandable tubular member.